Notice of Allowability	Application No.	Applicant(s)	
	10/671,295	WOLFGANG ET AL.	
	Examiner	Art Unit	
	Srirama Channavajjala	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *7/27/06*.

2. ☐ The allowed claim(s) is/are *1,3-5,8-14,16-18,21-27,29-31,34-39 [re-numbered as: 1-30]*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *8/14/2006* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Srirama Channavajjala
Primary Examiner
Art Unit: 2166

DETAILED ACTION

1. Claims 1,3-5,8-14,16-18,21-27,29-31,34-39 are allowed.

Drawings

2. The Drawings filed on 9/25/2003 are acceptable for examination purpose

Information Disclosure Statement

3. The information disclosure statement filed on 9/25/2003 is in compliance with the provisions of 37 CFR 1.97, and has been considered and a copy is enclosed with this Office Action.

Interview:

4. Applicant's Attorney Janaki K. Davda, Reg.No. 40,684 is thanked for the telephone interview on 15 August 2006. During that telephone interview Janaki K. Davda granted authorization to ***amend claims 1,8-9,14,21-22,27,34-35*** and ***cancel claims: 2,6-7,15,19-20,28,32-33.***

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's Janaki K. Davda, Reg.No. 40,684 on 15 August 2006.

Pursuant to MPEP 606.01 the Title is changed to read

--METHOD, SYSTEM AND PROGRAM FOR DATA SYNCHRONIZATION WHERE FIRST AND SECOND SOURCE GENERATING, DETERMINING WHETHER FIRST IDENTIFIER AND SECOND IDENTIFIER MATCH UNIQUE IDENTIFIER ASSOCIATED WITH EACH ORTION OF DATA SOURCE —

IN THE SPECIFICATION

Please ***replace paragraph 38 on page 13***, with the following paragraph:

The described techniques for data synchronization may be implemented as a method, apparatus or article of manufacture using standard programming and/or engineering techniques to produce software, firmware, hardware, or any combination thereof. The term "article of manufacture" as used herein refers to code or logic implemented in hardware logic (e.g., an integrated circuit chip, Programmable Gate Array (PGA), Application Specific Integrated Circuit (ASIC), etc.) or a computer readable medium, such as magnetic storage medium (e.g., hard disk drives, floppy disks,, tape, etc.), optical storage (CD-ROMs, optical disks, etc.), volatile and non-volatile memory devices (e.g., EEPROMs, ROMs, PROMs, RAMs, DRAMs, SRAMs, firmware, programmable logic, etc.). Code in the computer readable medium is accessed and executed by a processor. ~~The code in which preferred embodiments are implemented may further be accessible through a transmission media or from a file server over a network. In such cases, the article of manufacture in which the code is implemented may comprise a transmission media, such as a network transmission line, wireless transmission media, signals propagating through space, radio waves, infrared signals, etc.~~ Thus, the "article of manufacture" may comprise the medium in which the code is embodied. Additionally, the "article of manufacture" may comprise a combination of hardware and software components in which the code is embodied, processed, and executed. Of course, those skilled in the art will recognize that many modifications may be made to this

configuration without departing from the scope of the present invention, and that the article of manufacture may comprise any information bearing medium known in the art.

In the Claims

1. (Currently Amended) A method for data synchronization between two sources, comprising:

determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source ,wherein determining the first identifier further comprises:

generating a first value by performing a first function on the portion of data at the first source;

generating a second value by performing a second function on the portion of data at the first source; and

generating the first identifier by combining the first value and the second value;

determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

determining whether the first identifier and the second identifier match by comparing the first and second identifiers; [[and]]

in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

~~when~~ in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source.

2. (Cancelled)

3. (Original) The method of claim 1, wherein the first and second identifiers comprise hash keys.

4. (Original) The method of claim 3, further comprising:

generating the hash keys using a single hash key function.

5. (Original) The method of claim 3, further comprising:

generating the hash keys using multiple hash key functions.

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The method of claim [[7]] 1 , wherein determining the second identifier further comprises:

generating a third value by performing the first function on the portion of corresponding data at the second source;

generating a fourth value by performing the second function on the portion of corresponding data at the second source; and

generating the second identifier by combining the third value and the fourth value.

9. (Currently Amended) ~~The method of claim 1~~ A method for data synchronization between two sources, comprising:

determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source , wherein determining the first identifier further comprises:

generating a first value by performing a first function on the portion of data at the first source; and

generating the first identifier by performing a second function on the first value;

determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

determining whether the first identifier and the second identifier match by comparing the first and second identifiers;

in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

~~when~~ in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source .

10. (Original) The method of claim 9, wherein determining the second identifier further comprises:

generating a second value by performing the first function on the portion of corresponding data at the second source; and

generating the second identifier by performing the second function on the second value.

11. (Original) The method of claim 1, wherein the first identifier for the portion of data at the first source is determined when the portion of data at the first source is updated and the second identifier for the portion of corresponding data at the second source is determined when the portion of corresponding data at the second source is updated.

12. (Original) The method of claim 1, wherein the first identifier and the second identifier are determined when a determination is made that it is time to synchronize data at the first source and the second source.

13. (Original) The method of claim 1, wherein the first identifier and the second identifier are determined periodically.

14. (Currently Amended) An article of manufacture comprising one of hardware logic and a computer readable storage medium for data synchronization between two sources, wherein the article of manufacture is capable of causing operations to be performed, the operations comprising:

determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source ,wherein determining the first identifier further comprises:

generating a first value by performing a first function on the portion of data at the first source;

generating a second value by performing a second function on the portion of data at the first source; and

generating the first identifier by combining the first value and the second value;

determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

determining whether the first identifier and the second identifier match by comparing the first and second identifiers; [[and]]

in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

~~when~~ in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source.

15. (Cancelled)

16. (Original) The article of manufacture of claim 14, wherein the first and second identifiers comprise hash keys.

17. (Original) The article of manufacture of claim 16, wherein the operations further comprise:

generating the hash keys using a single hash key function.

18. (Original) The article of manufacture of claim 16, wherein the operations further comprise:

generating the hash keys using multiple hash key functions.

19. (Cancelled)

20. (Cancelled)

21. (Currently Amended) The article of manufacture of claim [[20]] 14, wherein the operation for determining the second identifier further comprises:

generating a third value by performing the first function on the portion of corresponding data at the second source;

generating a fourth value by performing the second function on the portion of corresponding data at the second source; and

generating the second identifier by combining the third value and the fourth value.

22. (Currently Amended) ~~The article of manufacture of claim 14~~ An article of manufacture comprising one of hardware logic and a computer readable storage medium for data synchronization between two sources, wherein the article of manufacture is capable of causing operations to be performed, the operations comprising:

determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source , wherein ~~the operation for~~ determining the first identifier further comprises:

generating a first value by performing a first function on the portion of data at the first source; and

generating the first identifier by performing a second function on the first value;

determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

determining whether the first identifier and the second identifier match by comparing the first and second identifiers;

in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source .

23. (Original) The article of manufacture of claim 22, wherein the operation for determining the second identifier further comprises:

generating a second value by performing the first function on the portion of corresponding data at the second source; and

generating the second identifier by performing the second function on the second value.

24. (Original) The article of manufacture of claim 14, wherein the first identifier for the portion of data at the first source is determined when the portion of data at the first source is updated and the second identifier for the portion of corresponding data at the second source is determined when the portion of corresponding data at the second source is updated.

25. (Original) The article of manufacture of claim 14, wherein the first identifier and the second identifier are determined when a determination is made that it is time to synchronize data at the first source and the second source.

26. (Original) The article of manufacture of claim 14, wherein the first identifier and the second identifier are determined periodically.

27. (Currently Amended) A system for data synchronization between two sources, comprising:

means for determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source ,wherein determining the first identifier further comprises:

means for generating a first value by performing a first function on the portion of data at the first source;

means for generating a second value by performing a second function on the portion of data at the first source; and

means for generating the first identifier by combining the first value and the second value;

means for determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

means for determining whether the first identifier and the second identifier match by comparing the first and second identifiers; [[and]]

means for, in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

means for, ~~when~~ in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source.

28. (Cancelled)

29. (Original) The system of claim 27, wherein the first and second identifiers comprise hash keys.

30. (Original) The system of claim 29, further comprising:
means for generating the hash keys using a single hash key function.

31. (Original) The system of claim 29, further comprising:
means for generating the hash keys using multiple hash key functions.

32. (Cancelled)

33. (Cancelled)

34. (Currently Amended) The system of claim [[33]] 27 , wherein determining the second identifier further comprises:

means for generating a third value by performing the first function on the portion of corresponding data at the second source;

means for generating a fourth value by performing the second function on the portion of corresponding data at the second source; and

means for generating the second identifier by combining the third value and the fourth value.

35. (Currently Amended) ~~The system of claim 27~~ A system for data synchronization between two sources, comprising:

means for determining a first identifier for a portion of data at a first source, wherein a unique identifier is associated with each portion of data at the first source , wherein determining the first identifier further comprises:

means for generating a first value by performing a first function on the portion of data at the first source; and

means for generating the first identifier by performing a second function on the first value;

means for determining a second identifier for a portion of corresponding data at a second source, wherein a unique identifier is associated with each portion of data at the second source;

means for determining whether the first identifier and the second identifier match by comparing the first and second identifiers;

means for, in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

means for, in response to determining that the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source .

36. (Original) The system of claim 35, wherein determining the second identifier further comprises:

means for generating a second value by performing the first function on the portion of corresponding data at the second source; and

means for generating the second identifier by performing the second function on the second value.

37. (Original) The system of claim 27, wherein the first identifier for the portion of data at the first source is determined when the portion of data at the first source is updated and the second identifier for the portion of corresponding data at the second source is determined when the portion of corresponding data at the second source is updated.

38. (Original) The system of claim 27, wherein the first identifier and the second identifier are determined when a determination is made that it is time to synchronize data at the first source and the second source.

39. (Original) The system of claim 27, wherein the first identifier and the second identifier are determined periodically.

Reasons for allowance

Claims 1,3-5,8-14,16-18,21-27,29-31,34-39 are allowed

The following is an examiner's statement of reasons for indication of allowable subject matter: The prior art of record does not disclose, make obvious, or otherwise suggest the structure of the applicant's method, system, an article of manufacturing for data synchronization "*determining whether the first identifier and the second identifier match by comparing the first and second identifiers;*

in response to determining that the first and second identifiers do match, determining that the portion of data at the first source and the portion of corresponding data at the second source in a storage device capable of storing data are identical; and

in response to determining that_ the first and second identifiers do not match, replacing the portion of corresponding data at the second source in a storage device capable of storing data with the portion of data at the first source" in claims 1,9,14,22,27,35.

These features, together with the other limitations of the independent claims are novel and non-obvious over the prior art of record. The dependent claims 3-5,8, 10-13,16-18,21,23-26,29-31,34,36-39 being definite, enabled by the specification, and further limiting to the independent claims are also allowable.

The newly cited art Yach,David Paul et al. CA 2496375, is directed to synchronization of database copies, more specifically determining whether the databases are in match with one another and made responsive to comparison of hash information that is representative of values contained in the respective databases, if a determination is made that the databases are out-of-match based upon the comparisons of the respective hash information, additional determinations, based upon additional hash information are made. If the additional determinations indicate that the databases are out-of-match, selected portions of the databases are communicated over the air interface and the database portions are compared with each other. Responsive to such comparisons, and pursuant to a conflict resolution scheme, conflicting portions of the database are altered, thereby to place the databases in match with one another [see page 4-5, fig 2-3].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is 571-272-4108. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone numbers for the organization where the application or proceeding is assigned is 571-273-8300 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

sc
Patent Examiner.
August 15, 2006.

SRIRAMA CHANNAVAJJALA
PRIMARY EXAMINER